INTERNATIONAL STANDARD

ISO 374-5

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Protective gloves against dangerous chemicals and micro-organisms —

Part 5: Terminology and performance requirements for micro-organisms risks

Gants de protection contre les micro-organismes —

Partie 5: Terminologie et exigences de performance pour des risques par des micro-organisme

Reference number
ISO 374-5:2016(E)

Contents

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

ISO 374-5 was prepared by the European Committee for Standardization (CEN) in collaboration with ISO Technical Committee ISO/TC 94, *Personal safety — Protective clothing and equipment*, Subcommittee SC 13 *Protective clothing* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

ISO 374 consists of the following parts, under the general title *Protective gloves against dangerous chemicals and micro-organisms*:

— *Part 1: Terminology and performance requirements for chemical risks*

— *Part 5: Terminology and performance requirements for micro-organism risks*

Protective gloves against dangerous chemicals and micro-organisms —

Part 5:
Terminology and performance requirements for micro-organisms risks

1 Scope

This part of ISO 374 specifies the requirements and test methods for protective gloves intended to protect the user against micro-organisms.

NOTE If other protection features is to be needed, e.g. chemical risks, mechanical risks, thermal risks, electrostatic dissipation etc., the appropriate specific performance standard is to be used in addition. Further information on protective gloves standards can be found in the EN 420.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 374-2:2014, *Protective gloves against dangerous chemicals and micro-organisms — Part 2: Determination of resistance to penetration*

EN 420:2009, *Protective gloves — General requirements and test methods*

ISO 16604:2004, *Clothing for protection against contact with blood and body fluids — Determination of resistance of protective clothing materials to penetration by blood-borne pathogens — Test method using Phi-X 174 bacteriophage*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
protective gloves against micro-organisms
protective gloves which form a protective barrier to microbiological agents

Note 1 to entry: Microbiological agents are bacteria or virus or fungi.

3.2
bacteria
very large group of micro-organisms comprising one of the three domains of living organisms, they are prokaryotic, unicellular, and either free-living in soil or water or parasites of plants or animals

3.3
virus
any of various simple sub-microscopic parasites of plants, animals, and bacteria that often cause disease and that consist essentially of a core of RNA or DNA surrounded by a protein coat

Note 1 to entry: Unable to replicate without a host cell, viruses are typically not considered living organisms.

3.4
fungi
any of numerous eukaryotic organisms of the kingdom Fungi, which lack chlorophyll and vascular tissue and range in form from a single cell to a body mass of branched filamentous hyphae that often produce specialized fruiting bodies

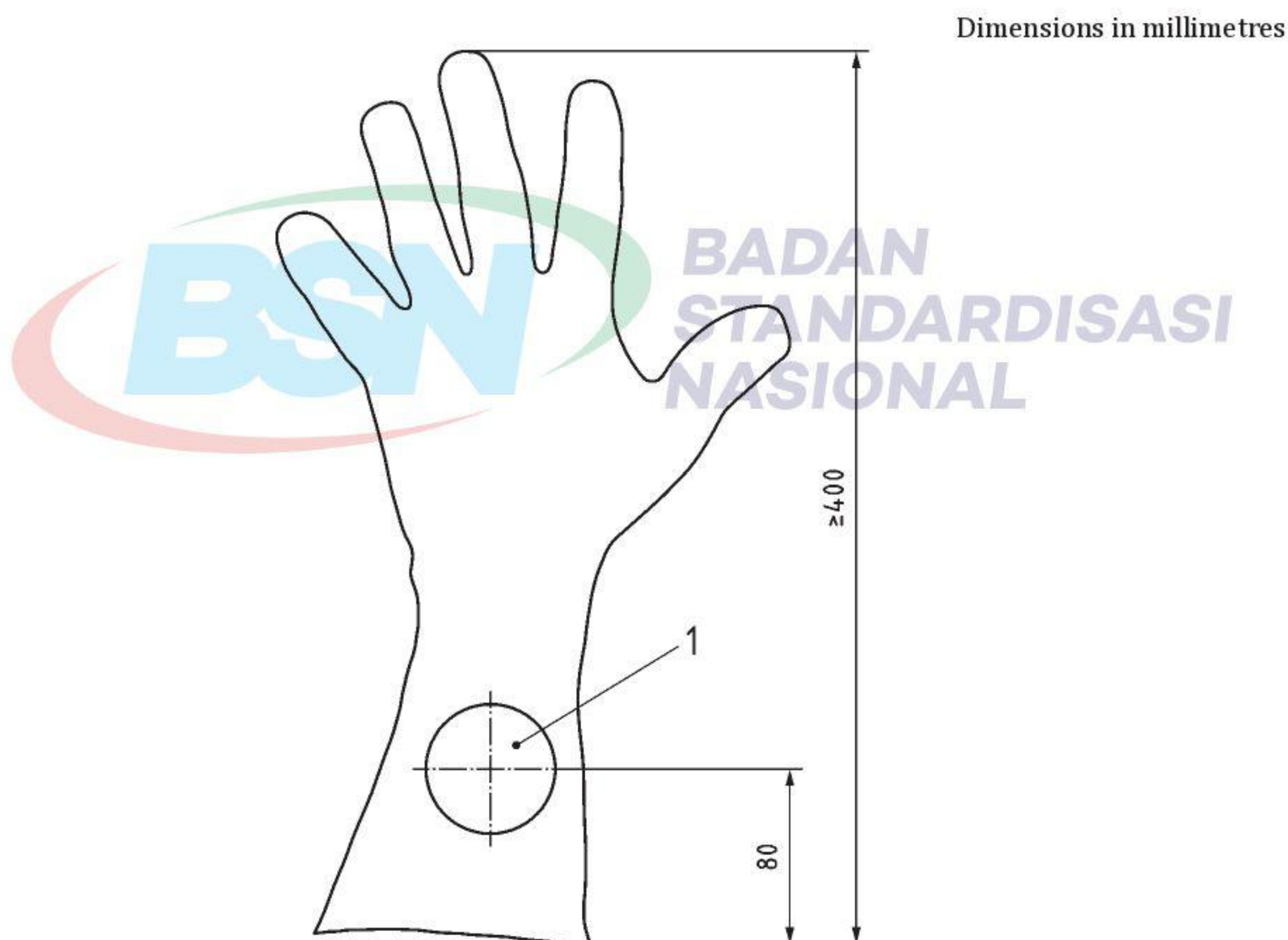
Note 1 to entry: The kingdom includes the yeasts, moulds and smuts.

4 Sampling

4.1 Sampling for viral penetration testing

The test specimen shall be taken from the palm area. If the glove is longer than or equal to 400 mm and if the cuff is claimed to protect against micro-organism risks, additional test specimens shall be taken where the centre is 80 mm from the end of the cuff (see Figure 1). For further instructions, see ISO 16604:2004, Clause 7.

In the case of seams in the hand area, this area shall be tested.

Dimensions in millimetres

Key

1 sample

Figure 1 — Additional sample location for gloves longer than 400 mm

4.2 Sampling for bacteria/fungi penetration testing

The sampling for bacteria/fungi penetration shall be according to EN 374-2:2014, Clause 5.

5 Performance requirement

5.1 General requirements

Protective gloves against micro-organism risks shall comply with the requirements given in EN 420:2009, Clause 4, Clause 5 and Clause 7.

5.2 Penetration

Protective gloves against virus, bacteria and fungi shall not leak when tested according to EN 374-2:2014, 7.2 and 7.3.

5.3 Protection against viruses

Protective gloves against virus shall be tested according to ISO 16604 Procedure B and shall exhibit no detectable transfer (<1 PFU/ml) of the Phi-X174 bacteriophage in the assay titre.

5.4 Requirements for different protection types of gloves

The requirements are mentioned in the Table 1.

Table 1 — Requirements for different protection types of gloves

	5.1	5.2	5.3
Glove protecting against bacteria and fungi	X	X	
Glove protecting against virus, bacteria and fungi	X	X	X
X = required			

6 Marking

6.1 General

Marking of protective gloves against micro-organisms shall be in accordance with the marking requirement for protective gloves in EN 420.

6.2 Marking of gloves protecting against bacteria and fungi

For gloves protecting against bacteria and fungi complying with the requirements stated in 5.4, the pictogram in Figure 2 shall be used with reference to this part of ISO 374.

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Figure 2 — Marking of Glove protecting against bacteria and fungi

6.3 Marking of gloves protecting against viruses, bacteria and fungi

For gloves protecting against viruses, bacteria and fungi complying with the requirements stated in 5.4, the pictogram in Figure 3 shall be used with reference to ISO 374.

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VIRUS

Figure 3 — Marking of gloves protecting against viruses, bacteria and fungi

7 Information supplied by the manufacturer

The information supplied by the manufacturer shall be in accordance with the requirements for information as defined in EN 420. For protective gloves that are marked offering protection against micro-organisms and complying with the requirements in 5.4, this shall be stated in the user instructions.

The following warning shall be added that this information does not reflect the actual performance in the workplace: "The penetration resistance has been assessed under laboratory conditions and relates only to the tested specimen."

If not tested against viruses, the following warning shall be added: "Not tested against viruses".